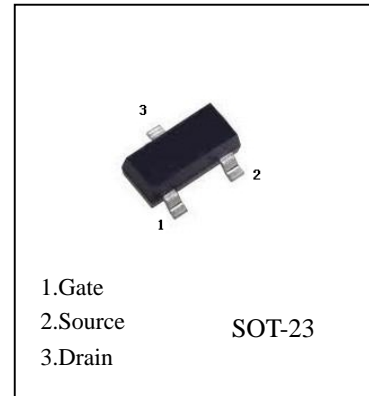
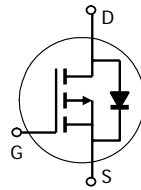


FEATURES

High dense cell design for extremely low RDS(ON).
 Exceptional on-resistance and maximum DC current capability

AO3401
 P-Channel MOSFET



MARKING:A19T

Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-4.2	A
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient (t<5s)	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

AO3401

Electrical Characteristics (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
On characteristics						
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$			65	m Ω
		$V_{GS} = -4.5V, I_D = -4A$			75	m Ω
		$V_{GS} = -2.5V, I_D = -1A$			90	m Ω
Forward tranconductance (note 1)	g_{FS}	$V_{DS} = -5V, I_D = -5A$	7			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.7		-1.3	V
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		954		pF
Output capacitance	C_{oss}			115		pF
Reverse transfer capacitance	C_{rss}			77		pF
Switching characteristics (note 2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 6\Omega$			6.3	ns
Turn-on rise time	t_r				3.2	ns
Turn-off delay time	$t_{d(off)}$				38.2	ns
Turn-off fall Time	t_f				12	ns
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (note 1)	V_{SD}	$I_S = -1A, V_{GS} = 0V$			-1	V

Note :

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycles $\leq 2\%$.
2. These parameters have no way to verify.

AO3401 Typical Characteristics

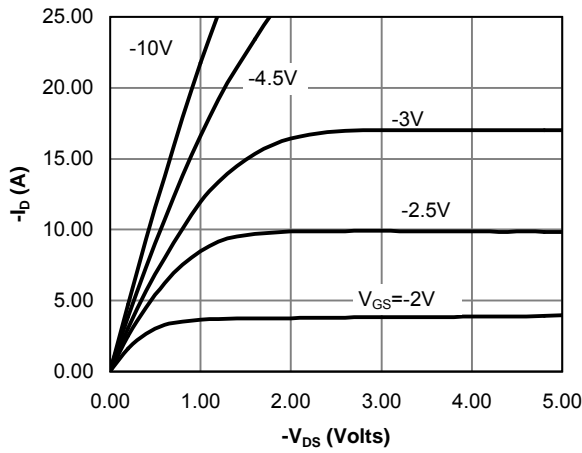


Fig 1: On-Region Characteristics

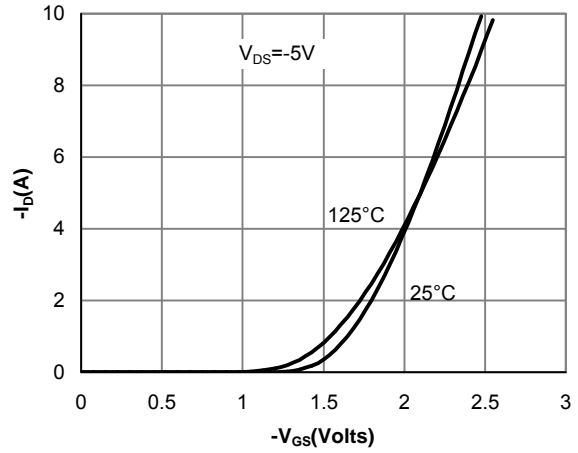


Figure 2: Transfer Characteristics

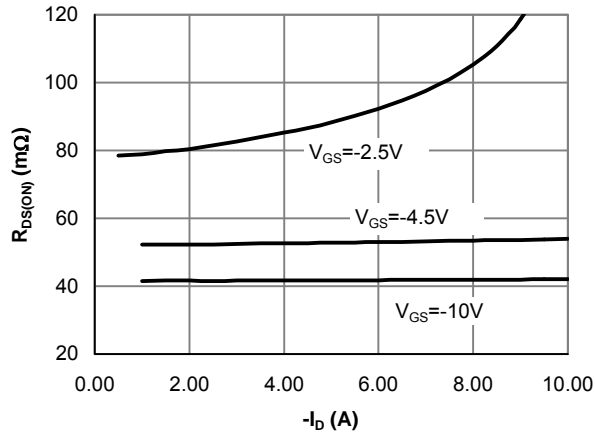


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

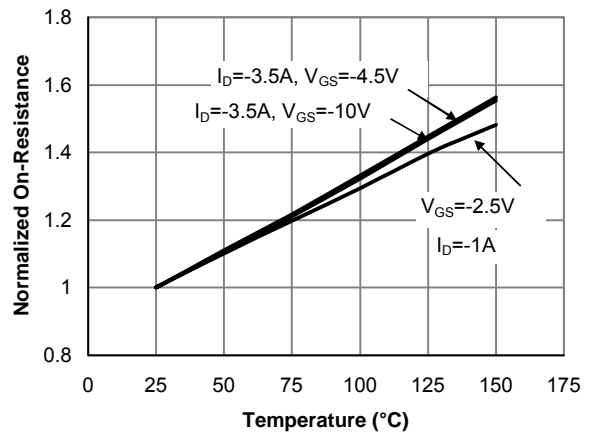


Figure 4: On-Resistance vs. Junction Temperature

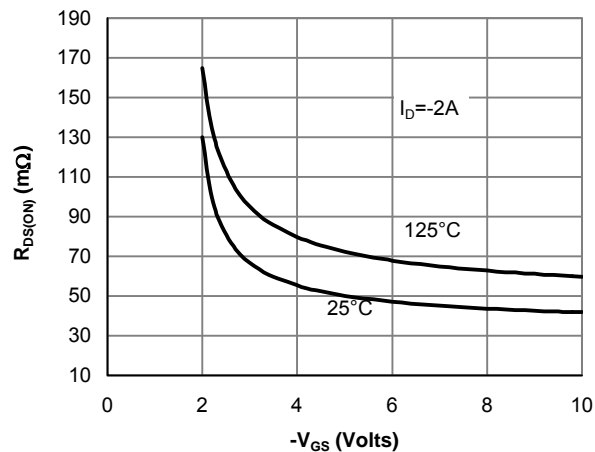


Figure 5: On-Resistance vs. Gate-Source Voltage

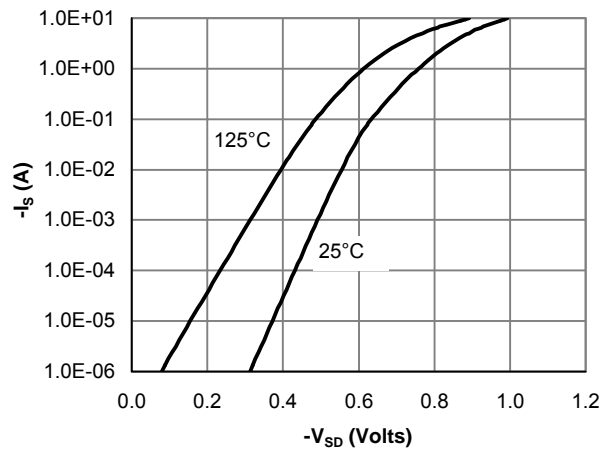


Figure 6: Body-Diode Characteristics

AO3401 Typical Characteristics

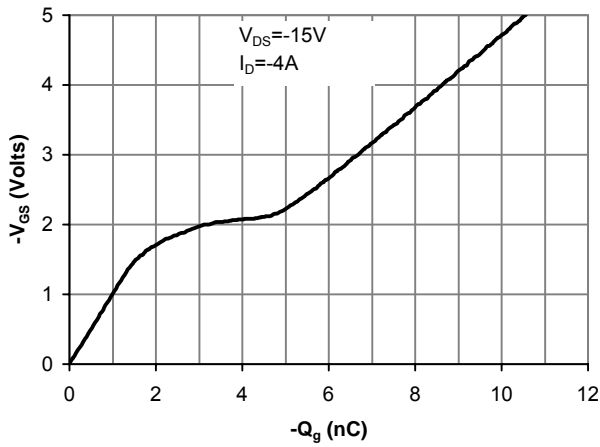


Figure 7: Gate-Charge Characteristics

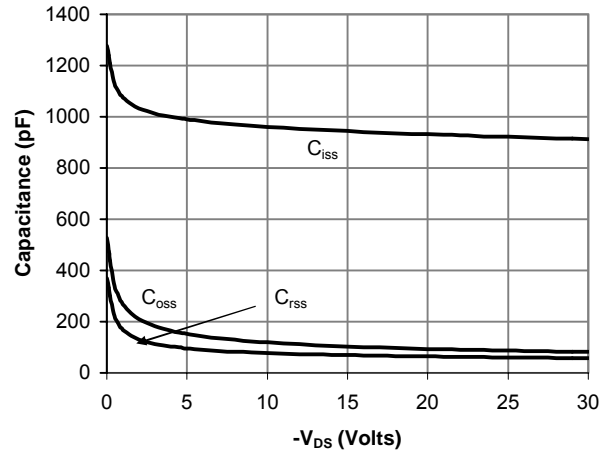


Figure 8: Capacitance Characteristics

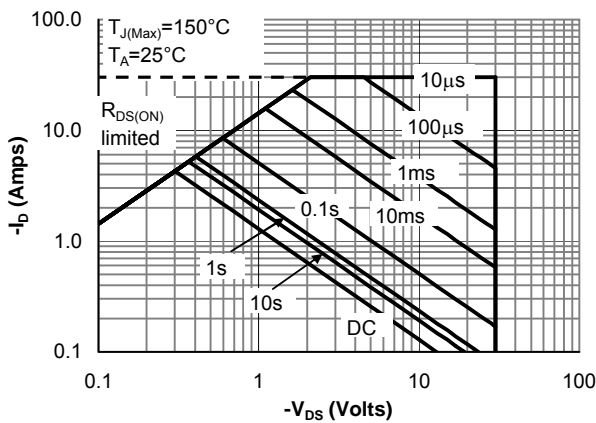


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

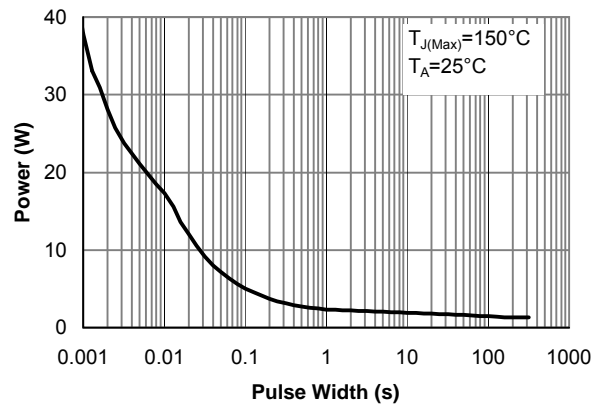


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

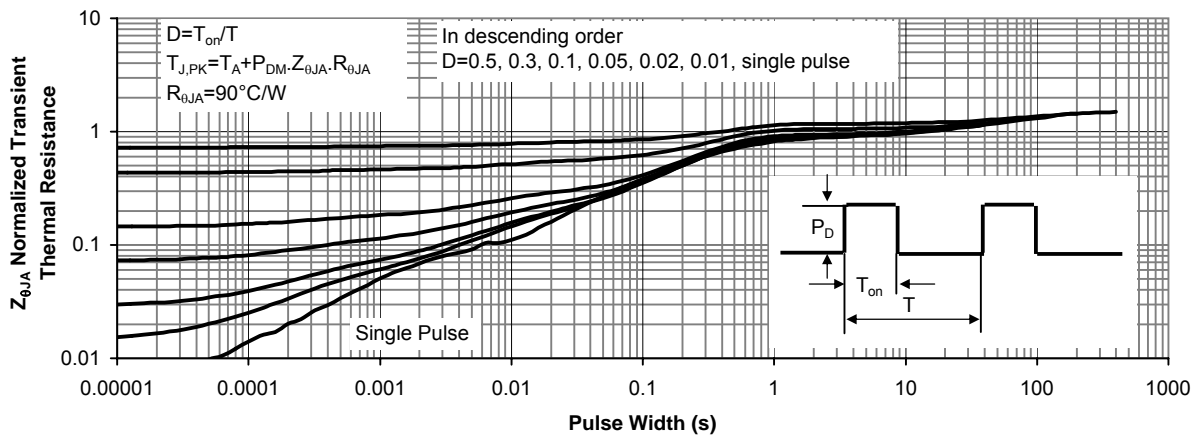


Figure 11: Normalized Maximum Transient Thermal Impedance

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